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## MINUTES.

*Stated Meeting January 2, 1914.*

WILLIAM W. KEEN, M.D., LL.D., President, in the Chair.

Invitations were received:

From La Reale Accademia de Ciencias y Artes de Barcelona to be represented at the celebration of the 150th anniversary of its foundation on the 18th, 19th and 20th of January next.

From the Regents of the University of the State of New York to be represented at the Inauguration of John Huston Finley as President of the University and Commissioner of Education of the State of New York, at Albany on January 2d, 1914.

The list of donations to the library was laid on the table and thanks were ordered for them.

The decease was announced of James MacAlister, A.M., LL.D., at sea on December 11, 1913; æt. 74.

Prof. E. G. Conklin read a paper on "Some Facts and Factors of Development"; which was discussed by Doctors Donaldson and Dercum, and Prof. Conklin.

The judges of the annual election of officers and councillors held on this day between the hours of two and five in the afternoon, reported that the following named members, according to the laws, regulations and ordinances of the Society, were elected to be the officers for the ensuing year:

*President.*

William W. Keen.

*Vice-Presidents.*

William B. Scott,  
Albert A. Michelson,  
Edward C. Pickering.

*Secretaries.*

I. Minis Hays,  
Arthur W. Goodspeed,  
Amos P. Brown,  
Harry F. Keller.

*Curators.*

Charles L. Doolittle,  
William P. Wilson,  
Leslie W. Miller.

*Treasurer.*

Henry LaBarre Jayne.

*Councillors.*

(To serve for three years.)  
Samuel Dickson,  
Ernest W. Brown,  
Morris Jastrow, Jr.,  
Arthur Gordon Webster.

*Stated Meeting February 6, 1914.*

WILLIAM W. KEEN, M.D., LL.D., President, in the Chair.

Mr. Samuel Rea, a newly elected member, subscribed the Laws and was admitted into the Society.

The decease was announced of the following members:

At St. Petersburg on January 2/15, 1914, Théodose Tschernyscheff, Director of the Geological Survey of Russia; æt. 67.

At Philadelphia on January 4, 1914, S. Weir Mitchell, M.D., LL.D.; æt. 84.

At Plattsburgh, N. Y., on January 7, 1914, William D. Marks; æt. 65.

At Cambridge, Mass., on January 14, 1914, Benjamin Osgood Peirce, Ph.D.; æt. 60.

At London on January 24, 1914, Sir David Gill, K.C.B.; æt. 70.

At Philadelphia on February 1, 1914, Charles E. Dana, C.E., æt. 71.

Dr. P. B. Hawk read a paper on "The Relationship of Water to Certain Life Processes, and More Especially to Nutrition"; which was discussed by Dr. Brubaker, Prof. Kraemer, Dr. Dercum, Prof. Keller and Mr. Carson.

*Stated Meeting March 6, 1914.*

WILLIAM W. KEEN, M.D., LL.D., President, in the Chair.

Invitations were received:

From the Deutsche Shakespeare Gesellschaft to participate in the celebration of the 50th Anniversary of its founding on April 22 to 24, 1914.

From the Premier Congrès de Police Judiciaire Internationale to participate in the Congress to be held at Monaco on April 14 to 20, 1914.

From the 19th International Congress of Americanists to be held at Washington October 5 to 10, 1914, to be represented thereat.

The decease was announced of:

Edwin J. Houston, Ph.D., at Philadelphia, on March 1, 1914; æt. 67.

Stuart Wood, Esq., at Philadelphia, on March 2, 1914; æt. 62.

Dr. Samuel W. Stratton read a paper on "Standards of Quality;" which was discussed by Dr. Donaldson, Dr. Keller, Mr. Day and Mr. F. Rawle.

*Stated Meeting April 3, 1914.*

WILLIAM W. KEEN, M.D., LL.D., President, in the Chair.

A letter was received from Senatore Giovanni Celoria expressing the grateful thanks of the Committee for 283.25 lire contributed by the members of this Society as a subscription to the Giovanni Schiapparelli Memorial.

The decease was announced of:

Edward S. Holden, A.M., LL.D., at West Point on March 16th, 1914; æt. 68.

Sir John Murray, K.C.B., Sc.D., LL.D., at Edinburgh on March 16th, 1914; æt. 73.

The following papers were read:

"Explorations in the Hudson Bay Regions with references to Unusual Topographic and Hydrographic Features and Mineral Deposits," by Mr. Ambrose E. Lehman; which was discussed by Mr. Willcox, Mr. Garrison and Mr. DuBois.

"On Psychology as the Behaviorist Views It," by E. B. Titchener, Ph.D., Sc.D., LL.D.

*Stated General Meeting April 23, 24 and 25, 1914.*

WILLIAM W. KEEN, M.D., LL.D., President, in the Chair.

*Thursday, April 23—Opening Session.*

The decease was announced of George William Hill, Sc.D., LL.D., at West Nyack, N. Y., on April 18, 1914; æt. 76.

The following papers were read:

"The Physical Cause of the Unsymmetrical Equilibrium of the Earth Between the Land and Water Hemispheres, with a Theorem on the Attraction of the Terrestrial Spheroid," by T. J. J. See, Ph.D., U. S. Naval Observatory, Mare Island, California.

"Some Observations on the Psychology of Juries and Jurors," by Patterson DuBois, Esq., of Philadelphia.

"Factors of Influence in the Origin and Circulation of the Cerebro-Spinal Fluid," by Charles H. Frazier, M.D., Professor of Clinical Surgery, University of Pennsylvania. Discussed by Dr. Crile.

"Aspects and Methods of the Study of the Mechanism of the Heart Beats," by Alfred E. Cohn, A.B., M.D., Associate in Medicine, Rockefeller Institute for Medical Research, New York. (Introduced by Dr. Keen.) Discussed by Dr. Keen.

"The Kinetic System," by George W. Crile, M.D., Professor of Clinical Surgery, Western Reserve University, Cleveland. Discussed by Dr. Keen and Dr. W. P. Wilson.

"The Hereditary Basis of Certain Emotional States," by Charles

B. Davenport, A.M., Ph.D., Director of Station for Experimental Evolution (Carnegie Institution), Cold Spring Harbor, New York.

"Syriac Socrates—A Study in Syrian Philosophy," by W. Romaine Newbold, Ph.D., Professor of Philosophy, University of Pennsylvania.

"The Evolution of Pine Barren Plants," by John W. Harshberger, Ph.D., Professor of Botany, University of Pennsylvania.

"Segregation of 'Unit Characters' in the Zygote of *Oenothera* with Twin and Triplet Hybrids in the First Generation," by George Francis Atkinson, Ph.D., Professor of Botany, Cornell University. Discussed by Prof. Bradley M. Davis and Prof. Kraemer.

"The Vegetation of the Sargasso Sea," by William G. Farlow, Ph.D., LL.D., Professor of Cryptogamic Botany, Harvard University. Discussed by Prof. Harshberger, Prof. Atkinson, and Prof. Farlow.

"A New Type of Oak for America," by William Trelease, Sc.D., LL.D.

*Friday, April 24.*

*Executive Session—9:30 o'clock.*

WILLIAM W. KEEN, M.D., LL.D., President, in the Chair.

The proceedings of the officers and council were submitted and the list of nominations for membership recommended for election this year was reported.

The following resolution recommended by the officers and council was adopted:

That a Committee of eight members shall be appointed by the president at the first executive session of the general meeting in every year to nominate officers and councillors for the succeeding year. The president shall be ex-officio a member of this committee, but shall have no vote except in case of a tie. This committee shall report at the stated meeting on the first Friday in December and its

report shall be regarded as nominations duly made for the respective offices. But nothing herein contained shall be considered as restricting the right of any individual member to make nominations as provided in the Laws.

Members are invited to make to this Committee suggestions of appropriate nominations and it shall be its duty to give full consideration to the same.

The President thereupon appointed the following members to constitute the Committee: Dr. Hays, Prof. E. W. Brown, Prof. Trelease, Dr. R. S. Woodward, Hon. Charlemagne Tower, Dr. Donaldson, Prof. Gummere, Prof. Farlow.

*Morning Session—9:35 o'clock.*

ALBERT A. MICHELSON, Ph.D., Sc.D., LL.D., F.R.S.

Vice-President, in the Chair.

The following papers were read:

“Phase Changes Produced by High Pressures,” by Percy W. Bridgman, Instructor in Physics in the Jefferson Physical Laboratory, Harvard University. (Introduced by Prof. Goodspeed.) Discussed by Professors Pickering, Hobbs, Bogert, Noyes and Michelson.

“The Influence of Atmospheric Pressure on the Forced Convection of Heat from Thin Electric Conducting Wires,” by Arthur E. Kennelly, Sc.D., Professor of Electrical Engineering, Harvard University.

“Some New Tests of Quantum Theory and a Direct Determination of  $h$ ,” by Robert Andrews Millikan, A.M., Ph.D., Professor of Physics, University of Chicago. (Introduced by Prof. Goodspeed.) Discussed by Prof. Michelson.

Discussion of “A Kinetic Theory of Gravitation”: (1) Gravitation is Due to Intrinsic Energy of the Ether; (2) Transmission of Gravitation Cannot be Instantaneous, by Charles F. Brush, Ph.D., Sc.D., LL.D., of Cleveland. Discussed by Prof. Nipher.

- "Behavior of Metals and Other Substances Under Stress Near the Rupture Point," by A. A. Michelson, Ph.D., LL.D., Professor of Physics, University of Chicago. Discussed by Prof. E. W. Brown, Mr. Bridgman, and Mr. Brush.
- "On Highly Radio-Active Solutions," by William Duane, A.M., Ph.D., Assistant Professor of Physics and Research Fellow of the Cancer Commission, Harvard University. (Introduced by Prof. Goodspeed.) Discussed by Mr. Brush and Dr. Donaldson.
- "Some Further Considerations in the Development of the Electron Conception of Valence," by K. G. Falk, of the Harriman Research Laboratory, Roosevelt Hospital, New York. (Introduced by Prof. Bogert).
- "The Valence of Nitrogen in Ammonium Salts," by William Albert Noyes, Ph.D., LL.D., Professor of Chemistry, University of Illinois, and R. S. Potter. (Introduced by Prof. H. C. Jones.)
- "Determination of the True Atomic Weight of Radium," by Gustavus Hinrichs, of St. Louis.

*Afternoon Session—2 o'clock.*

EDWARD S. PICKERING, D.Sc., LL.D., F.R.S.,

Vice-President, in the Chair.

Dr. Cyrus Adler in presenting a portrait of the late Samuel Pierpont Langley, LL.D., a former Vice-President of the Society, spoke as follows:

On behalf of a number of members of the Society I have the honor to present a portrait of Samuel Pierpont Langley, a former member and Vice President of the American Philosophical Society.

Mr. Langley, the third Secretary of the Smithsonian Institution, was a man of national and international fame which rested primarily upon his epoch making researches in solar physics. All of the recognition which came to him was based upon his discoveries in physics and astronomy. But he was also a pioneer in another field, being the first distinguished man of science to devote himself to the



subject of aerial navigation, at a time when this was not considered within the realm of scientific study. The mere fact that a man of his reputation and position gave serious attention to this important subject lent it an impetus and standing which it would not have otherwise received for many years and therefore greatly advanced the development of this science and art. But he did more than give an impetus, for he not only discovered principles of prime importance in connection with aerodynamics, but was the first to produce a machine heavier than air, supported and propelled by its own engine and possessed of no extraneous or lifting power which actually made an independent flight.

The first flight of a heavier than air machine which ever occurred took place over the Potomac River on May 6, 1896 and was succeeded by numerous other flights of various models, which he built, all of the monoplane type.

He had received honorary degrees from Oxford and Cambridge Universities in England and from Harvard, Michigan, Princeton and Wisconsin in the United States. Medals were awarded him by the National Academy of Sciences, the Royal Society of London, the American Academy of Arts and Sciences, the Institute of France and the Astronomical Society of France and he was a member or correspondent of all of these and many other learned Societies including the Academia dei Lincei of Rome.

He had an especial affection for the American Philosophical Society, one of the few organizations in which he accepted an office.

In addition to these great achievements, Mr. Langley was a man of wide culture and of deep sympathy and insight. That I was permitted to enjoy his friendship was one of the most profoundly valued and touching experiences of my life.

[The donors are Messrs. Cyrus Adler, Carl Barus, L. A. Bauer, Alex. Graham Bell, John A. Brashear, George F. Edmunds, George E. Hale, David Jayne Hill, George Gray, T. C. Mendenhall, Charles E. Munroe, Edward L. Nichols, Richard Olney, Henry Fairfield Osborn, Edward C. Pickering, Raphael Pumpelly, Edward B. Rosa, Frank Schlesinger, Samuel W. Stratton, Mayer Sulzberger, Elihu Thomson, Otto H. Tittmann, Charles D. Walcott, Andrew D. White and Robert S. Woodward.]

VICE-PRESIDENT PICKERING in accepting the portrait, said :

My acquaintance with Samuel Pierpont Langley goes back to the winter of 1870, when we crossed the ocean together to observe the total eclipse of the sun, in Spain. We maintained an unbroken friendship until his death, nearly forty years later. As a young man he was enthusiastic, and full of hope for the future. When placed in charge of the observatory at Pittsburgh, he found that the smoke in the atmosphere rendered stellar observations difficult. He therefore selected the sun as his object for study, since the smoke by cutting off the heat, rendered the air more steady. A skillful draughtsman, his drawing of that complicated object, a large sunspot, is probably the best ever made. In accepting the position of secretary of the Smithsonian Institution, he stipulated that he should be enabled to continue his scientific investigations. This led to the establishment of the astrophysical observatory, which has continued and extended his work to the present time. He devoted many years to the construction and improvement of the bolometer, one of the most delicate devices for measuring heat, and a most difficult instrument to adjust and use. For many years, the question of artificial flight had an absorbing interest for him. His investigations were long and laborious, and finally he attained success with a small model. When constructing a larger instrument, his sensitiveness induced him to avoid publicity, thus greatly annoying those whose business it is to keep the public informed of the latest news. They had their revenge when a misplaced nail in his launching apparatus ruined his aeroplane on its trial trip, and the subsequent ridicule and criticism saddened his last days, and shortened his life. The success of aerial navigation is largely due to his work, which has only received the credit it deserves since his death.

Langley, by his devotion to the advancement of human knowledge, well deserves a place among those whose portraits adorn these walls, and in the name of the American Philosophical Society held at Philadelphia for Promoting Useful Knowledge, I accept this portrait and extend grateful acknowledgments to the donors.

The following papers were read :

“ The Magnetic Phenomena of Sun-spots.”

- "The General Magnetic Field of the Sun." (Illustrated with lantern slides.) By George E. Hale, Ph.D., LL.D., F.R.S., Director of the Solar Observatory of the Carnegie Institution at Mt. Wilson, Cal.
- "On the Colors of the Stars in the Cluster M 13," by Edward E. Barnard, Sc.D., LL.D., Astronomer of the Yerkes Observatory, Williams Bay, Wis.
- "The Use of a Photographic Doublet in Cataloguing the Position of Stars," by Frank Schlesinger, M.A., Ph.D., Director of the Allegheny Observatory, Allegheny Pa. Discussed by Prof. Pickering.
- "The Distribution in Space of 90 Eclipsing Stars," by Henry Norris Russell, Ph.D., Professor of Astronomy, Princeton University.
- "The Eclipsing variable Stars  $\psi$  Orionis and 88 d Tauri," by Harlow Shapley, Ph.D., of Princeton University Observatory. (Introduced by Prof. H. N. Russell.)
- "Some Features of The Moon's Motion and a Problem in Isostasy," by Ernest W. Brown, M.A., Sc.D., F.R.S., Professor of Mathematics, Yale University.
- "The United States as a Factor in World Politics," by Leo S. Rowe, Ph.D., LL.D., Professor of Political Science, University of Pennsylvania.
- "A Sumerian Nature Hymn from Nippur, of the Time of the Dynasty of Agade, 2800-2600 B. C.," by George A. Barton, Ph.D., Professor of Biblical Literature, Bryn Mawr College.

*Evening Session—8:15 o'clock.*

Arthur L. Day, Ph.D., Director of the Geophysical Laboratory of the Carnegie Institution of Washington, gave an illustrated lecture on "Some Observations of the Volcano Kilauea in Action."

*Saturday, April 25.*

*Executive Session—9:30 o'clock.*

WILLIAM W. KEEN, M.D., LL.D., President, in the Chair.

Prof. George F. Atkinson and Prof. Charles Edwin Bennett, recently elected members, subscribed the Laws and were admitted into the Society.

Pending nominations for membership were read and spoken to.

Mr. J. Edward Whitfield and Dr. James McKeen Cattell were appointed tellers of election and the Society proceeded to ballot for members.

The tellers of election reported that the following nominees had been elected to membership:

*Residents of the United States.*

Charles Greeley Abbot, S.B., Washington.

James Wilson Bright, Ph.D., LL.D., Litt.D., Baltimore.

Bradley Moore Davis, A.M., Ph.D., Philadelphia.

Thomas McCrae, A.B., M.D., Philadelphia.

William Diller Matthew, A.M., Ph.D., New York.

Alfred Goldsborough Mayer, Ph.D., M.E., Washington.

Samuel Jones Meltzer, M.D., LL.D., New York.

John Campbell Merriam, B.S., Ph.D., Berkeley, Cal.

Robert Andrews Millikan, A.M., Ph.D., Chicago.

William Albert Noyes, Ph.D., LL.D., Urbana, Ill.

Stewart Paton, M.D., Princeton.

Richard Mills Pearce, Jr., M.D., Philadelphia.

Palmer Chamberlaine Ricketts, C.E., LL.D., Troy.

Harold A. Wilson, M.A., D.Sc., F.R.S., Houston.

Frederick Eugene Wright, Ph.D., Washington.

*Foreign Residents.*

Shibasaburo Kitasato, M.D., Tokyo.

Heike Kamerlingh Onnes, Ph.D., Leyden.

Vito Volterra, Sc.D., Ph.D., Rome.

*Morning Session—10 o'clock.*

WILLIAM B. SCOTT, Sc.D., LL.D., Vice-President, in the Chair.

The following papers were read:

- "Primary Cambrian Manganese Deposits of Newfoundland," by Nelson C. Dale, Fellow, Princeton University. (Introduced by Prof. W. B. Scott.)
- "Geology of the Wabana Iron Ores of Newfoundland," by Albert O. Hayes, Fellow, Princeton University. (Introduced by Prof. W. B. Scott.)
- "Hewettite, Metaheiwettite and Pascoite, Hydrous Calcium Vanadates," by W. F. Hillebrand, Ph.D., H. E. Merwin and Frederick E. Wright, Ph.D., of U. S. Geological Survey.
- "The Relations of Isostasy to a Zone of Weakness—the Asthenosphere," by Joseph Barrell, Ph.D., Professor of Structural Geology, Yale University. (Introduced by Prof. Charles Schuchert.)
- "Evidence for a Pulsational Change of Climate in the Libyan Desert," by William H. Hobbs, Ph.D., Professor of Geology, University of Michigan.
- "The Cretaceous-Tertiary Boundary in the Rocky Mountain Region," by F. H. Knowlton, U. S. Geological Survey. (Introduced by Prof. John M. Clarke.) Discussed by Prof. W. B. Scott.
- "The Geologic and Biologic Results of a Study of the Tertiary Floras of Southeastern North America," by Edward W. Berry, Associate Professor of Paleontology, Johns Hopkins University. (Introduced by Prof. William B. Clarke.) Discussed by Prof. W. B. Scott.
- "On Multiple Treatment of One and the Same Story 'Motif,'" by Maurice Bloomfield, Ph.D., LL.D., Professor of Sanskrit, Johns Hopkins University.
- "Some Biblical Miracles," by Paul Haupt, Ph.D., LL.D., Professor of Semitic Philology, Johns Hopkins University.
- "The Sumerian Pronunciation of the Name 'Ninib' as the Chief Deity of Umma," by Alfred T. Clay, Ph.D., Laffan

Professor of Assyriology and Babylonian Literature, Yale University.

"Panama Tolls and Tonnage Rules," by Emory R. Johnson, Ph.D., Professor of Transportation and Commerce, University of Pennsylvania.

"Passamaquoddy Morphology," by J. Dyneley Prince, A.B., Ph.D., Professor of Semitic Languages, Columbia University, New York.

*Afternoon Session—2 o'clock.*

WILLIAM W. KEEN, M.D., LL.D., President, in the Chair.

Prof. William Albert Noyes, of Urbana, Ill., and Prof. Bradley Moore Davis, of Philadelphia, newly elected members, subscribed the Laws and were admitted into the Society.

Dr. WILLIAM G. FARLOW unveiled a Wedgwood medallion portrait of the late Sir Joseph Dalton Hooker, O.M., G.C.S.I., C.B. and spoke as follows:

Today we are so fortunate as to be able to add a medallion of one of the world's great botanists to the already large number of memorials of distinguished men which adorn this Hall and give it a dignity which is justly envied by other scientific societies in this country. Joseph Dalton Hooker, the more distinguished son of a distinguished father, was born in Halesworth, Suffolk, England, in 1817 and, retaining his scientific activity until the last, died at Sunningdale in 1911, a record very rarely equalled.

When four years of age his father, Sir William Hooker, removed to Glasgow, where he had been appointed Professor of Botany in the University, so that from his early childhood, the son was placed in surroundings which naturally pointed to botany as his life work. While a student of medicine, Hooker had the opportunity of reading the proofs of Darwin's "Voyage of the Beagle" which aroused in him an intense desire to travel. This desire was fortunately soon gratified, for immediately after receiving the degree of Doctor of Medicine in 1839, he was appointed assistant surgeon and botanist to the *Erebus* under the command of Sir James Ross, then about to start on his memorable voyage to the Antarctic regions.

On his return in 1843 Hooker made his home at Kew where his father had been appointed director of the Royal Gardens. He was appointed assistant director in 1855 and, on the death of his father in 1865, director, which position he held till his retirement twenty years later. We always think of Hooker as at Kew. It was there, aided by the large collections formed in great part by his father and himself, that he finished his different floras; there that he brought to perfection the Garden which had been raised by his father from insignificance to be the leading botanical garden of the world; there that many American botanists were received with a cordiality doubly welcome because they were encouraged by his sympathy and aided by his advice.

Hooker was undoubtedly the leading botanical systematist of his day. For this branch of botany he not only had great natural ability, but he also had opportunities for studying in the field the floras of distant and little-explored regions such as few trained botanists have had. Besides his Antarctic voyage, when he visited New Zealand and Tasmania as well as more southern regions, he spent the years 1848 to 1851 in an exploration of the Himalayas in company with Thomas Thomson,—an expedition involving great hardships among hostile people, but rich in results, and later he made trips to Palestine and Morocco. On his last long journey in 1877, he travelled with his old friend, Asa Gray, among the Rocky Mountains and in California.

On this occasion we need not consider in detail Hooker's various descriptive works on the floras of the countries he had visited, nor works like the great "*Genera Plantarum*," written in collaboration with Bentham, technical systematic treatises belonging to the classics of botany. Let us recall rather those qualities of Hooker which made him more than a systematist, which entitled him to rank with Darwin, Wallace, Lyall and Huxley in the brilliant group of naturalists which has never been surpassed, if it has ever been equalled, in any other country. Like Darwin, Hooker began his botanical career as an explorer of remote regions. The delightful account of the "*Voyage of the Beagle*" has its counterpart in the "*Himalayan Journals*" of Hooker. In both we recognize the fact that the

authors were something more than interesting relators of what they had seen. To them biological facts were only significant as indicating so many steps in the sequence of cause and effect. The genius of Darwin was manifested in his ability to see clearly in the beginning of his career the true direction in which the facts he had observed pointed, so that his lifework was unified, one step leading inevitably to another in the development of a great theory. It was much the same with Hooker. The writings which mark him as a philosophical botanist are the "Introductory Essay to the Flora of Tasmania"; the "Essay on the Distribution of Arctic Plants"; the "Discourse on Insular Floras"; the address at York on "Geographical Distribution," and the "Essay on the Vegetation of India," publications extending over a period of forty years.

The study of plant distribution involving a consideration of the geological phenomena which could account for it, and also of the question as to the effect of altered environment in modifying the characters of plants, naturally led to the fundamental question: What are Species and what are Varieties? One who, like Hooker, was master of the facts and without prejudice, could not fail to recognize that species are not fixed creations, but transitional stages in the progress of evolution. Hooker was a Darwinian even before the appearance of the "Origin of Species." It has been said with truth that, with the exception of Wallace, Hooker was the first adherent of Darwin in his views on evolution. How much that means is hardly realized at the present day. With us the question is not whether there is such a thing as evolution in plants and animals. We accept evolution as a fact, and, if there be any question, it is as to whether the explanation of the mode of its operation as presented by Darwin was satisfactory in all its details. In 1859, however, the date of the publication of the "Origin of Species," and for a considerable number of years later it required a good deal of courage as well as an unbiased mind for anyone, especially for an Englishman, to declare his assent to the revolutionary views advanced by Darwin.

In closing I may be permitted to repeat the words describing the position of Hooker among botanists on the occasion of the presentation to him of the Linnean gold medal at Stockholm in 1907.



"By scientific expeditions to many different parts of the world he has revealed the secrets of their vegetation. His extraordinary experience embraces both the nature of tropical India as also the subtropical and temperate climates, as well as of the cold antarctic regions. The contents of his floristic works are therefore exceedingly rich. He has furthermore enriched botany by splendid works in other departments of this science, for instance concerning the geographical distribution of plants, their classification and other matters."

I have the honor of unveiling the medallion of Sir Joseph Dalton Hooker, the energetic explorer, the eminent systematist, the distinguished investigator of the problem of plant evolution.

The following papers were read:

"The Burgess Shale Fauna of the Canadian Rockies," by Charles D. Walcott, Ph.D., Sc.D., LL.D., Secretary of the Smithsonian Institution, Washington.

"Summary of Researches, Department of Terrestrial Magnetism, 1904-14." (Illustrated.) By Louis A. Bauer, Ph.D., D.Sc., Director of the Department of Terrestrial Magnetism of the Carnegie Institution, Washington, D. C. Discussed by Prof. Pickering.

Symposium on Physics and Chemistry of Protoplasm:

"The Germ Plasm as a Stereochemic System," by Edward T. Reichert, M.D., Prof. Physiology in Univ. of Penna. (Introduced by Dr. Keen.)

"Arrangement and Distribution of Substances in the Cell," by Edwin Grant Conklin, Ph.D., Sc.D., Professor of Zoology at Princeton University.

"Vital Staining of Protoplasm," by Herbert McLean Evans, M.D., Associate Professor of Anatomy, Johns Hopkins University. (Introduced by Prof. Piersol.)

"The Physical State of Protoplasm," by G. L. Kite, M.D., Ph.D., Phipps Institute, Philadelphia. (Introduced by Prof. McClung.)

"The Physico-Chemical Organization of the Cell," by Lawrence J. Henderson, A.B., M.D., Assistant Professor of Biological Chemistry, Harvard University. (Introduced by Dr. H. F. Keller.)

*Stated Meeting May 1, 1914.*

WILLIAM W. KEEN, M.D., LL.D., President, in the Chair.

Dr. Thomas McCrae, of Philadelphia, a newly elected member, subscribed the Laws and was admitted into the Society.

Letters accepting membership were received from:

Charles Greeley Abbot, S.B., Washington.

Bradley Moore Davis, A.M., Ph.D., Philadelphia.

Thomas McCrae, A.B., M.D., Philadelphia.

Samuel James Meltzer, M.D., LL.D., New York.

William Albert Noyes, Ph.D., LL.D., Urbana, Ill.

Stewart Paton, M.D., Princeton.

Richard Mills Pearce, Jr., M.D., Philadelphia.

Palmer Chamberlaine Ricketts, C.E., LL.D., Troy.

Frederick Eugene Wright, Ph.D., Washington.

The list of donations to the library was laid upon the table and thanks were ordered for them.

The decease was announced of George F. Baer, at Philadelphia, on April 26, 1914, in the 72d year of his age.

Prof. J. Russell Smith read a paper on "Tree Breeding with Relation to Conservation and the Food Supply," which was discussed by Prof. Bradley M. Davis and Dr. Keen.

Hon. Charlemagne Tower, Chairman, presented and read at length the report of the Committee on the Date of Origin of the Society.

On motion, by unanimous vote, the report was accepted; the year 1727 was declared to be the date of foundation of the Society, in accordance with the finding of the committee; and the committee was discharged with the thanks of the Society for its exhaustive report.

*Stated Meeting October 2, 1914.*

WILLIAM W. KEEN, M.D., LL.D., President in the Chair.

Dr. Richard Mills Pearce, a newly elected member, subscribed the Laws and was admitted into the Society.

Letters accepting membership were received from:

James Wilson Bright, Ph.D., LL.D., Litt.D., Baltimore.

William Diller Matthew, A.M., Ph.D., New York.  
Alfred Goldsborough Mayer, Ph.D., M.E., Washington.  
John Campbell Merriam, B.S., Ph.D., Berkeley.  
Robert Andrews Millikan, A.M., Ph.D., Chicago.  
Harold A. Wilson, M.A., D.Sc., F.R.S., Houston.  
Shibasaburo Kitasato, M.D., Tokyo.  
Heike Kamerlingh Onnes, Ph.D., Leyden.  
Vito Volterra, Sc.D., Ph.D., Rome.

Invitations were received:

From the Ohio State Archaeological and Historical Society, to be represented at the dedication of its Museum and Library Building, at Columbus, on May 30th.

From the University of Missouri, to be represented at the 75th Anniversary of its founding on June 3d.

The decease was announced of the following members:

Edward Suess, Ph.D., at Vienna, on April 29, 1914, æt. 73.

William Aldis Wright, LL.D., D.C.L., Litt.D., at London, on May 19, 1914.

John Robert Sittlington Sterrett, Ph.D., LL.D., at Ithaca, N. Y., on June 16, 1914, æt. 63.

Frederick William True, M.S., LL.D., at Washington, on June 25, 1914, æt. 56.

John Barnard Pearse, at Roxbury, Mass., on August 24, 1914, æt. 72.

Morris Longstreth, A.M., M.D., at Barcelona, Spain, on Sept. 19, 1914, æt. 68.

*Special Meeting October 30, 1914.*

WILLIAM W. KEEN, M.D., LL.D., President in the Chair.

A paper was read on "A new Means of Studying Submarine Animal and Vegetable Life," illustrated by moving pictures of tropical deep sea flora and fauna.

*Stated Meeting November 6, 1914.*

WILLIAM W. KEEN, M.D., LL.D., President, in the Chair.

The decease of the following members was announced:

Léon de Rosny, at Fontenay-aux-Roses (Seine), on August 28, 1914, æt. 78.

Theodore Nicholas Gill, M.D., Ph.D., at Washington, on September 25, 1914, æt. 77.

The following papers were presented:

"On Wireless Longitude Determination," by Eric Doolittle. Discussed by Professor C. L. Doolittle, Professor Snyder, Mr. Mitchell and Professor Miller.

"On the Production of an Artificial Hiss," by E. B. Titchener, Ph.D., D.Sc., LL.D.

*Stated Meeting December 4th, 1914.*

WILLIAM W. KEEN, M.D., LL.D., President, in the Chair.

An invitation was received from the Chairman of the 11th Annual Conference of Historical Societies to be held in Chicago in connection with and as part of the Thirtieth Annual Meeting of the American Historical Association, December 28 to 31, to participate in the conference by appointing delegates.

The decease was announced of

August Weismann, D.Ph., D.C.L., at Freiburg on November 5, 1914, æt. 80.

Charles Sedgwick Minot, M.D., Sc.D., LL.D., at Boston on November 19, 1914. æt. 61.

Alfred Thayer Mahan, LL.D., D.C.L., Rear Admiral U.S.N, at Washington on December 1, 1914. æt. 74.

Dr. John Mason Clarke of Albany read a paper on "The Magdalen Islands—a Relict Archipelago," which was discussed by Mr. Willcox and Prof. Pilsbry.